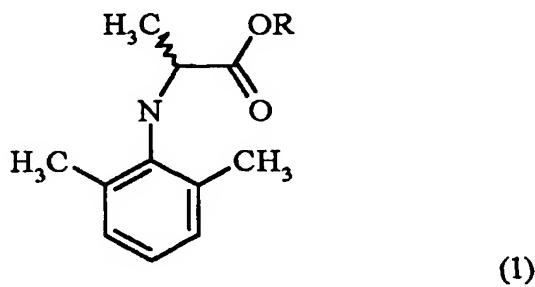


WHAT IS CLAIMED IS:

1. A method of preparing (R)- or (S)-N-(2,6-dimethyl phenyl) alanine comprising the steps of,

(A) reacting racemic (R), (S)-N-(2,6-dimethyl phenyl) alanine ester as represented in

5 Formula 1 below,



where

10 R is selected from the group consisting of unsubstituted or substituted and linear or branched C₁-C₁₈ alkyl or alkenyl, unsubstituted or substituted C₃-C₆ cycloalkyl, unsubstituted or substituted aryl alkyl, and unsubstituted or substituted heteroaryl alkyl,

15 with an effective amount of an enzyme which enantioselectively hydrolyzes one enantiomeric form thereof to produce an (R)-form or (S)-form of N-(2,6-dimethyl phenyl) alanine (“(R)-form alanine” or “(S)-form alanine”) and a counter enantiomeric form of N-(2,6-dimethyl phenyl) alanine ester (“counter (S)-form ester” or “counter (R)-form ester”); and

(B) isolating the synthesized (R)-form or (S)-form alanine from a reaction mixture to obtain an optically pure N-(2,6-dimethyl phenyl) alanine.

2. A method of preparing (R)- or (S)-N-(2,6-dimethyl phenyl) alanine ester comprising

the steps of,

(A') reacting racemic (R), (S)-N-(2,6-dimethyl phenyl) alanine ester as represented in Formula 1 above with an effective amount of an enzyme which enantioselectively hydrolyzes one enantiomeric form thereof to produce an (R)-form or (S)-form of N-(2,6-dimethyl phenyl) alanine (“(R)-form alanine” or “(S)-form alanine”) and a counter enantiomeric form of N-(2,6-dimethyl phenyl) alanine ester (“counter (S)-form ester” or “counter (R)-form ester”); and

(B') isolating the unhydrolyzed counter (S)-form or (R)-form ester from a reaction mixture to obtain an optically pure N-(2,6-dimethyl phenyl) alanine ester.

3. The method of claim 2, wherein the step (B') is replaced with the following step (B''):

10 (B'') isolating the synthesized (R)-form or (S)-form alanine from a reaction mixture and then esterifying the (R)-form or (S)-form alanine with an alcohol, R-OH, wherein R is the same as in Formula 1, to produce an optically pure N-(2,6-dimethyl phenyl) alanine ester.

4. The method of claim 1, wherein R is selected from the group consisting of allyl, 2-chloroethyl, methoxyethyl and ethoxyethyl.

15 5. The method of claim 1 or 2, wherein the enzyme is one or more selected from lipases, proteases and esterases derived from microorganisms, animals or plants.

6. The method of claim 5, wherein the enzyme is lipase.

7. The method of claim 5, wherein the enzyme is one or more selected from the group of Lipase AK from *Pseudomonas*, Toyobo Immobilized lipase, Lipoprotein lipase, Lipase PS and 20 AH from *Burkholderia*, Lipase QLM from *Alcaligenes*, and Lipase OF from *Candida*.

8. The method of claim 1 or 2, wherein a hydrolysis reaction by the enzyme is carried out in an aqueous solution, or a mixed solution containing a small amount of organic solvent.
9. The method of claim 8, wherein the organic solvent is a hydrophilic solvent such as acetone, acetonitrile, alcohol, etc. or a hydrophobic solvent such as isopropyl ether, tert-butyl methyl ether, chloroform, dichloromethane, carbon tetrachloride, hexane, toluene, etc., or mixtures thereof.
10. The method of claim 1 or 2, wherein the hydrolysis reaction is performed at pH 3 – 12 and 0 – 60°C.
11. The method of claim 1 or 2, wherein the isolation is achieved by extracting an unhydrolyzed ester compound ((R)- or (S)-form ester) using organic solvent in the case of the reaction system of only aqueous solution, and partitioning an organic layer containing an unhydrolyzed ester compound to obtain an aqueous layer containing a synthesized enantiomeric alanine in the case of the reaction system of a mixed solution of organic solvent and aqueous solution.
- 15 12. The method of claim 1 or 2, wherein the enzyme is an immobilized enzyme on supports or enzyme aggregates crosslinked in any form.